

Appendix 3A-6: Annual Total Phosphorus Criteria Compliance Assessment for Water Year 2004 through Water Year 2008

Florida Department of Environmental Protection

Table 1. Annual total phosphorus criteria compliance assessment for the five-year period from Water Years 2004 through 2008.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
Refuge	Impacted	2004	X1	12	24.2	Fail					
	Impacted	2004	Z1	12	26.7	Fail					
	Impacted	2004	Annual Network Summary					25.4	Fail		
	Impacted	2005	LOXA101	7	19.0	Fail					
	Impacted	2005	LOXA105	6	38.0	Fail					
	Impacted	2005	LOXA124	8	29.9	Fail					
	Impacted	2005	LOXA130	8	26.8	Fail					
	Impacted	2005	LOXA137	8	22.6	Fail					
	Impacted	2005	LOXA140	7	18.1	Fail					
	Impacted	2005	X1	9	46.2	Fail					
	Impacted	2005	Z1	11	34.1	Fail					
	Impacted	2005	Annual Network Summary					29.3	Fail		
	Impacted	2006	LOXA101	8	14.5	Pass					
	Impacted	2006	LOXA105	8	15.5	Pass					
	Impacted	2006	LOXA124	11	10.6	Pass					
	Impacted	2006	LOXA130	11	14.8	Pass					
	Impacted	2006	LOXA137	12	13.6	Pass					
	Impacted	2006	LOXA140	9	11.8	Pass					
	Impacted	2006	X1	10	31.2	Fail					
	Impacted	2006	Z1	12	19.6	Fail					
	Impacted	2006	Annual Network Summary					16.5	Fail		
	Impacted	2007	LOXA101	3	N/A (7.6)	N/A					
	Impacted	2007	LOXA105	2	N/A (14.7)	N/A					
	Impacted	2007	LOXA124	4	N/A (9.8)	N/A					
	Impacted	2007	LOXA130	4	N/A (8.7)	N/A					
	Impacted	2007	LOXA137	4	N/A (7.6)	N/A					
	Impacted	2007	LOXA140	2	N/A (7)	N/A					
	Impacted	2007	X1	7	31.8	Fail					
	Impacted	2007	Z1	11	31.4	Fail					
	Impacted	2007	Annual Network Summary					31.6	Fail		

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
Refuge	Impacted	2008	LOXA101	9	14.0	Pass					
	Impacted	2008	LOXA105	9	14.9	Pass					
	Impacted	2008	LOXA124	10	13.0	Pass					
	Impacted	2008	LOXA130	11	11.1	Pass					
	Impacted	2008	LOXA137	11	9.4	Pass					
	Impacted	2008	LOXA140	8	7.8	Pass					
	Impacted	2008	X1	8	53.9	Fail					
	Impacted	2008	Z1	7	65.2	Fail					
	Impacted	2008	Annual Network Summary					23.7	Fail		
	Impacted	2004–2008	Five-Year Network Summary							23.9	Fail
	Unimpacted	2004	LOX10	8	9.1	Pass					
	Unimpacted	2004	LOX11	11	7.5	Pass					
	Unimpacted	2004	LOX12	12	6.4	Pass					
	Unimpacted	2004	LOX13	11	9.7	Pass					
	Unimpacted	2004	LOX14	12	7.6	Pass					
	Unimpacted	2004	LOX15	12	5.6	Pass					
	Unimpacted	2004	LOX16	12	8.4	Pass					
	Unimpacted	2004	LOX3	7	12.1	Pass					
	Unimpacted	2004	LOX4	9	10.9	Pass					
	Unimpacted	2004	LOX5	8	12.1	Pass					
	Unimpacted	2004	LOX6	12	6.9	Pass					
	Unimpacted	2004	LOX7	11	9.6	Pass					
	Unimpacted	2004	LOX8	12	7.9	Pass					
	Unimpacted	2004	LOX9	7	7.2	Pass					
	Unimpacted	2004	X4	12	9.7	Pass					
	Unimpacted	2004	Annual Network Summary					8.7	Pass		
	Unimpacted	2005	LOX10	9	11.4	Pass					
	Unimpacted	2005	LOX11	10	10.9	Pass					
	Unimpacted	2005	LOX12	12	12.9	Pass					
	Unimpacted	2005	LOX13	10	9.6	Pass					

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
Refuge	Unimpacted	2005	LOX14	10	8.3	Pass					
	Unimpacted	2005	LOX15	11	8.7	Pass					
	Unimpacted	2005	LOX16	10	8.9	Pass					
	Unimpacted	2005	LOX3	4	N/A (17.2)	N/A					
	Unimpacted	2005	LOX4	9	14.0	Pass					
	Unimpacted	2005	LOX5	3	N/A (11.9)	N/A					
	Unimpacted	2005	LOX6	9	7.2	Pass					
	Unimpacted	2005	LOX7	10	11.2	Pass					
	Unimpacted	2005	LOX8	10	10.4	Pass					
	Unimpacted	2005	LOX9	6	9.9	Pass					
	Unimpacted	2005	LOXA108	5	N/A (10)	N/A					
	Unimpacted	2005	X4	11	19.8	Fail					
		Unimpacted	2005	Annual Network Summary					11.0	Pass	
	Unimpacted	2006	LOX10	9	7.3	Pass					
	Unimpacted	2006	LOX11	10	7.1	Pass					
	Unimpacted	2006	LOX12	10	7.2	Pass					
	Unimpacted	2006	LOX13	8	7.5	Pass					
	Unimpacted	2006	LOX14	10	6.7	Pass					
	Unimpacted	2006	LOX15	10	7.5	Pass					
	Unimpacted	2006	LOX16	10	6.7	Pass					
	Unimpacted	2006	LOX3	4	N/A (7.3)	N/A					
	Unimpacted	2006	LOX4	10	8.0	Pass					
	Unimpacted	2006	LOX5	7	7.8	Pass					
	Unimpacted	2006	LOX6	10	6.0	Pass					
	Unimpacted	2006	LOX7	10	7.8	Pass					
	Unimpacted	2006	LOX8	10	8.1	Pass					
	Unimpacted	2006	LOX9	10	6.4	Pass					
	Unimpacted	2006	LOXA108	6	9.8	Pass					
	Unimpacted	2006	X4	12	9.1	Pass					
		Unimpacted	2006	Annual Network Summary					7.5	Pass	

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
Refuge	Unimpacted	2007	LOX10	8	7.4	Pass					
	Unimpacted	2007	LOX11	10	6.6	Pass					
	Unimpacted	2007	LOX12	12	7.1	Pass					
	Unimpacted	2007	LOX13	10	7.3	Pass					
	Unimpacted	2007	LOX14	11	7.1	Pass					
	Unimpacted	2007	LOX15	11	7.3	Pass					
	Unimpacted	2007	LOX16	11	6.7	Pass					
	Unimpacted	2007	LOX3	4	N/A (10.4)	N/A					
	Unimpacted	2007	LOX4	8	9.7	Pass					
	Unimpacted	2007	LOX5	5	N/A (8.8)	N/A					
	Unimpacted	2007	LOX6	10	6.8	Pass					
	Unimpacted	2007	LOX7	10	8.8	Pass					
	Unimpacted	2007	LOX8	11	9.4	Pass					
	Unimpacted	2007	LOX9	7	7.8	Pass					
	Unimpacted	2007	LOXA108	1	N/A (8)	N/A					
	Unimpacted	2007	X4	12	12.6	Pass					
	Unimpacted	2007	Annual Network Summary					8.1	Pass		
	Unimpacted	2008	LOX10	9	8.3	Pass					
	Unimpacted	2008	LOX11	11	7.4	Pass					
	Unimpacted	2008	LOX12	10	7.8	Pass					
	Unimpacted	2008	LOX13	10	7.2	Pass					
	Unimpacted	2008	LOX14	11	6.9	Pass					
	Unimpacted	2008	LOX15	10	7.5	Pass					
	Unimpacted	2008	LOX16	10	7.6	Pass					
	Unimpacted	2008	LOX3	10	8.7	Pass					
	Unimpacted	2008	LOX4	10	9.6	Pass					
	Unimpacted	2008	LOX5	10	7.9	Pass					
	Unimpacted	2008	LOX6	10	5.6	Pass					
Unimpacted	2008	LOX7	10	7.8	Pass						

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
Refuge	Unimpacted	2008	LOX8	11	10.1	Pass					
	Unimpacted	2008	LOX9	10	8.0	Pass					
	Unimpacted	2008	LOXA108	8	8.0	Pass					
	Unimpacted	2008	X4	11	13.2	Pass					
	Unimpacted	2008	Annual Network Summary					8.2	Pass		
	Unimpacted	2004–2008	Five-Year Network Summary							8.7	Pass
WCA-2	Impacted	2004	404Z1	10	18.8	Fail					
	Impacted	2004	F3	11	15.5	Pass					
	Impacted	2004	N1	10	19.6	Fail					
	Impacted	2004	WCA2F1	15	36.0	Fail					
	Impacted	2004	WCA2F4	16	10.8	Pass					
	Impacted	2004	Annual Network Summary					20.1	Fail		
	Impacted	2005	404Z1	7	25.8	Fail					
	Impacted	2005	F3	11	31.5	Fail					
	Impacted	2005	N1	9	19.1	Fail					
	Impacted	2005	WCA2F1	8	66.0	Fail					
	Impacted	2005	WCA2F4	8	22.8	Fail					
	Impacted	2005	Annual Network Summary					33.0	Fail		
	Impacted	2006	F3	10	16.8	Fail					
	Impacted	2006	N1	12	18.7	Fail					
	Impacted	2006	WCA2F1	14	44.5	Fail					
	Impacted	2006	WCA2F4	17	15.3	Pass					
	Impacted	2006	Annual Network Summary					23.8	Fail		
	Impacted	2007	404Z1	1	N/A (33)	N/A					
	Impacted	2007	CA224	1	N/A (7)	N/A					
	Impacted	2007	F3	9	16.4	Fail					
	Impacted	2007	N1	6	24.9	Fail					
	Impacted	2007	WCA2F1	9	46.7	Fail					
Impacted	2007	WCA2F4	10	21.6	Fail						
Impacted	2007	Annual Network Summary					27.4	Fail			

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
WCA-2	Impacted	2008	404Z1	8	27.0	Fail					
	Impacted	2008	CA223	6	25.9	Fail					
	Impacted	2008	CA224	9	8.4	Pass					
	Impacted	2008	F3	10	17.8	Fail					
	Impacted	2008	N1	5	N/A (24.2)	N/A					
	Impacted	2008	WCA2F1	5	N/A (30.2)	N/A					
	Impacted	2008	WCA2F4	5	N/A (12.9)	N/A					
	Impacted	2008	Annual Network Summary					19.8	Fail		
	Impacted	2004–2008	Five-Year Network Summary							25.0	Fail
	Unimpacted	2004	404C2	10	11.5	Pass					
	Unimpacted	2004	CA29	13	6.2	Pass					
	Unimpacted	2004	E5	9	5.7	Pass					
	Unimpacted	2004	F5	8	6.5	Pass					
	Unimpacted	2004	U1	7	3.9	Pass					
	Unimpacted	2004	U3	9	5.5	Pass					
	Unimpacted	2004	Annual Network Summary					6.5	Pass		
	Unimpacted	2005	404C2	8	8.7	Pass					
	Unimpacted	2005	CA29	10	7.0	Pass					
	Unimpacted	2005	E5	7	5.8	Pass					
	Unimpacted	2005	F5	7	11.6	Pass					
	Unimpacted	2005	U1	8	10.2	Pass					
	Unimpacted	2005	U3	7	11.3	Pass					
	Unimpacted	2005	Annual Network Summary					9.1	Pass		
	Unimpacted	2006	CA29	16	6.5	Pass					
	Unimpacted	2006	E5	9	7.4	Pass					
	Unimpacted	2006	F5	9	8.5	Pass					
	Unimpacted	2006	U1	9	6.7	Pass					
	Unimpacted	2006	U3	8	5.7	Pass					
	Unimpacted	2006	Annual Network Summary					7.0	Pass		
	Unimpacted	2007	CA217	3	N/A (7)	N/A					

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
WCA-2	Unimpacted	2007	CA222	3	N/A (6.5)	N/A					
	Unimpacted	2007	CA26	1	N/A (6)	N/A					
	Unimpacted	2007	CA29	10	8.9	Pass					
	Unimpacted	2007	E5	9	4.3	Pass					
	Unimpacted	2007	F5	9	6.7	Pass					
	Unimpacted	2007	U1	10	6.6	Pass					
	Unimpacted	2007	U3	8	5.4	Pass					
	Unimpacted	2007	Annual Network Summary					6.4	Pass		
	Unimpacted	2008	404C2	4	N/A (8.8)	N/A					
	Unimpacted	2008	CA217	10	6.3	Pass					
	Unimpacted	2008	CA222	10	5.8	Pass					
	Unimpacted	2008	CA26	9	5.3	Pass					
	Unimpacted	2008	CA29	15	6.2	Pass					
	Unimpacted	2008	E5	11	6.7	Pass					
	Unimpacted	2008	F5	11	9.0	Pass					
	Unimpacted	2008	U1	14	9.7	Pass					
	Unimpacted	2008	U3	12	7.6	Pass					
	Unimpacted	2008	Annual Network Summary					7.1	Pass		
	Unimpacted	2004–2008	Five-Year Network Summary							7.2	Pass
WCA-3	Impacted	2004	CA33	12	11.1	Pass					
	Impacted	2004	CA35	10	9.7	Pass					
	Impacted	2004	CA36	10	32.5	Fail					
	Impacted	2004	Annual Network Summary					17.7	Fail		
	Impacted	2005	CA33	7	17.7	Fail					
	Impacted	2005	CA35	4	N/A (12.3)	N/A					
	Impacted	2005	CA36	4	N/A (56.3)	N/A					
	Impacted	2005	Annual Network Summary					17.7	Fail		
	Impacted	2006	CA33	14	10.3	Pass					
	Impacted	2006	CA35	12	8.3	Pass					
	Impacted	2006	CA36	10	30.9	Fail					

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail
WCA-3	Impacted	2006	Annual Network Summary				16.5	Fail		
	Impacted	2007	CA314	4	N/A (5.9)	N/A				
	Impacted	2007	CA33	5	N/A (18.2)	N/A				
	Impacted	2007	CA35	4	N/A (10.1)	N/A				
	Impacted	2007	CA36	5	N/A (28.3)	N/A				
	Impacted	2007	Annual Network Summary				NA	NA		
	Impacted	2008	CA314	11	7.3	Pass				
	Impacted	2008	CA324	1	N/A (14)	N/A				
	Impacted	2008	CA33	7	14.4	Pass				
	Impacted	2008	CA35	5	N/A (8.5)	N/A				
	Impacted	2008	CA36	6	35.7	Fail				
	Impacted	2008	Annual Network Summary				19.1	Fail		
	Impacted	2004–2008	Five-Year Network Summary						17.8	Fail
	Unimpacted	2004	3ASMESO	12	2.9	Pass				
	Unimpacted	2004	CA311	14	4.1	Pass				
	Unimpacted	2004	CA315	16	4.5	Pass				
	Unimpacted	2004	CA316	15	6.5	Pass				
	Unimpacted	2004	CA32	9	6.0	Pass				
	Unimpacted	2004	CA34	10	6.7	Pass				
	Unimpacted	2004	CA38	12	5.1	Pass				
	Unimpacted	2004	S345B6	6	4.9	Pass				
	Unimpacted	2004	Annual Network Summary				5.1	Pass		
	Unimpacted	2005	3ASMESO	9	3.6	Pass				
	Unimpacted	2005	CA311	10	7.5	Pass				
	Unimpacted	2005	CA315	9	8.6	Pass				
	Unimpacted	2005	CA316	10	11.2	Pass				
	Unimpacted	2005	CA32	5	N/A (8.1)	N/A				
	Unimpacted	2005	CA34	5	N/A (8.1)	N/A				
Unimpacted	2005	CA38	6	6.0	Pass					
Unimpacted	2005	S345B6	8	8.8	Pass					

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail	
WCA-3	Unimpacted	2005	Annual Network Summary					7.6	Pass		
	Unimpacted	2006	3ASMESO	10	3.4	Pass					
	Unimpacted	2006	CA311	15	5.5	Pass					
	Unimpacted	2006	CA315	16	7.5	Pass					
	Unimpacted	2006	CA316	16	7.5	Pass					
	Unimpacted	2006	CA32	13	6.2	Pass					
	Unimpacted	2006	CA34	14	11.2	Pass					
	Unimpacted	2006	CA38	14	5.9	Pass					
	Unimpacted	2006	Annual Network Summary					6.7	Pass		
	Unimpacted	2007	3ASMESO	9	7.0	Pass					
	Unimpacted	2007	CA311	11	7.4	Pass					
	Unimpacted	2007	CA315	16	7.7	Pass					
	Unimpacted	2007	CA316	11	9.3	Pass					
	Unimpacted	2007	CA319	4	N/A (8.2)	N/A					
	Unimpacted	2007	CA32	6	9.4	Pass					
	Unimpacted	2007	CA325	1	N/A (8)	N/A					
	Unimpacted	2007	CA34	5	N/A (12.6)	N/A					
	Unimpacted	2007	CA38	6	6.1	Pass					
	Unimpacted	2007	CA39	4	N/A (5.7)	N/A					
	Unimpacted	2007	CA3B1	3	N/A (5.5)	N/A					
	Unimpacted	2007	CA3B2	3	N/A (5)	N/A					
	Unimpacted	2007	S345B6	4	N/A (9)	N/A					
	Unimpacted	2007	Annual Network Summary					7.8	Pass		
	Unimpacted	2008	3ASMESO	12	7.4	Pass					
	Unimpacted	2008	CA311	15	6.8	Pass					
	Unimpacted	2008	CA315	15	8.0	Pass					
	Unimpacted	2008	CA316	13	10.8	Pass					
	Unimpacted	2008	CA319	10	6.8	Pass					
Unimpacted	2008	CA32	7	7.5	Pass						

Table 1. Continued.

Area	Network	Water Year	Site	Sample Size (n)	Annual Site Geometric Mean	≤15 µg/L Pass/ Fail	Network Annual Avg Geometric Mean	≤11 µg/L Pass/ Fail	Network 5-yr Avg Geometric Mean	≤10 µg/L Pass/ Fail
WCA-3	Unimpacted	2008	CA325	6	5.6	Pass				
	Unimpacted	2008	CA34	7	15.2	Pass				
	Unimpacted	2008	CA38	11	6.7	Pass				
	Unimpacted	2008	CA39	10	6.8	Pass				
	Unimpacted	2008	CA3B1	10	6.0	Pass				
	Unimpacted	2008	CA3B2	8	7.6	Pass				
	Unimpacted	2008	S345B6	9	6.6	Pass				
	Unimpacted	2008	Annual Network Summary					7.8	Pass	
Unimpacted	2004-2008	Five-Year Network Summary							7.0	Pass

NA-Data not available

N/A-Mean calculation not applicable

Refuge-Arthur R. Marshall Loxahatchee National Wildlife Refuge

WCA-2-Water Conservation Area 2

WCA-3-Water Conservation Area 3